UNITED NATIONS
ECONOMIC
AND
SOCIAL COUNCIL

LIMITED
E/CN.11/WRD/MKG/L.73 Rev.1
15 March 1963
ORIGINAL : ENGLISH

UNITED NATIONS

ECONOMIC COMMISSION FOR ASIA AND THE FAR EAST

CAMBODIA, LAOS, THAILAND AND VIET-NAM

Committee for Co-ordination of Investigations
of the Lower Mekong Basin

PLAN OF OPERATION

THE UPPER SREPOK INVESTIGATION PROJECT

(Darlac Irrigation Scheme)

Contents

		Page	Para
I.	Introduction	1	1 - 6
II.	General description of the project	2	7 - 10
III.	Purpose and scope of work	3	11
IV.	Privileges, immunities and facilities	6	12 - 18
V.	Completion of the project	8	19
VI.	Signatures	9	

I. INTRODUCTION

1. At the Special Session of the Committee for Coordination of Investigations of the Lower Mekong Basin (hereinafter referred to as "the Committee") which was held at Bangkok on 15-18 December, 1958, the Government of Japan expressed its willingness to assist the Committee in undertaking the reconnaissance of major tributaries of the Lower Mekong Basin. The offer was made as a contribution to the Comprehensive Investigation Programme of the Lower Mekong Basin for the coordinated implementation of which the Committee was established in 1957 by the Governments of Cambodia, Laos, Thailand and Viet-Nam. The Committee gratefully accepted the offer.

2. The work under the Project was commenced in December 1958 and the requisite field work had been completed by the end of 1960. The final report was submitted to the Fifteenth Session of the Committee held in October 1961.

3. In the meantime three interim reports on the progress and outlook of the work have been submitted to the Committee during the course of the past two and a half years. The first of these reports contained a recommendation that the Committee consider to take up at an early date detailed investigations of the eight tributary basins deemed to offer particularly promising prospects of development. Following this recommendation the Committee decided in the course of its Fifth Session in June 1959 to submit to the United Nations Special Fund a request for assistance in detailed surveys of four of the tributary basins listed in the Japanese report, and further expressed its desire to seek cooperation from national governments and other agencies for the implementation of similar projects in the four remaining tributary basins.

4. At the Eleventh Session of the Committee which took place at Vientiane on 23-26 November, 1960, the Government of Japan informed the Committee that it was prepared to extent an assistance for a hydrologic investigation of the Upper Srepok, Viet-Nam, selected from among the four remaining tributaries referred to above, and the Committee expressed its deep appreciation in accepting the offer.

/ 5.

5. The Government of Japan has undertaken the hydrologic investigation of the Upper Srepok during the period of one year with its 1961-year budget of 840,000 yen appropriated for this purpose. Subsequently, in view of the eager request from the Government of Viet-Nam for the investigation of the Upper Srepok and also of its further request from the Committee which took place at Tokyo in March 1962, the Government of Japan has set aside a budgetary appropriation for this work. At the Nineteenth Session of the Committee held at Vientiane, the Government of Japan expressed to the Committee that it was prepared to undertake the investigations and preliminary design of the Upper Srepok — limited to the irrigation and drainage project of the low-lying marshy area in the Darlac region. This offer was gratefully accepted by the Committee. The actual work of this Project is to be implemented by the Overseas Technical Cooperation Agency (OTCA) which is a subordinate organization of the Government of Japan.

6. The present document sets forth a Plan of Operation for the investigations of the irrigation scheme of the Darlac low-lying area in the basin of the Upper Srepok to be undertaken by the Government of Japan in cooperation with the Government of Viet-Nam and the Committee.

II. GENERAL DESCRIPTION OF THE PROJECT

7. The Srepok is one of the main tributaries of the Mekong. It rises in the Annam Cordillera and flows in the highland of Viet-Nam and then passes through the Cambodian plain to drain into the Mekong near Stung Treng with other two large tributaries, the Se Kong and the Se San. It has an overall length of about 390 km and a total catchment area of about 31,000 km2.

8. According to the reconnaissance of major tributaries of the Mekong which was undertaken by the Japanese Government during the past three years, it is indicated that the upper part of this river (about 17,800 km2 in Viet-Nam territory) is composed mainly of fertile soil so that there is a possibility of agricultural development. Moreover, the Government of Viet-Nam is now energetically promoting the policy to establish a large agricultural settlement in this area. In this light, the development of the Upper Srepok is considered to be important and significant.

/ 9.

9. In the development plan of the upper Srepok are involved six projects for power and irrigation or both purposes. Among them, the highest priority is given to the irrigation and drainage project of the low-lying marshy land in the Darlac region to the south east of Ban-Me-Thuot.

10. This area is a flat land of about 100 km2 where the Ea Krong Ana and the Ea Krong Kno meet together. Most of this area is left devastated with thick reed due to the lack of drainage facilities. But the soil appears fertile. Fortunately, the above two rivers have more than 10 cubic meters per second of natural run-off even in the dry season, which would be able to meet the irrigation requirement of this area. According to the report of the Japanese Reconnaissance Team on the Mekong Tributaries, the drainage plan is to construct long dikes on both banks of each of the said two rivers and straighten their river courses as far as possible. In addition, it is considered to blast off the rocks existing in the outlet of the rivers from this area to improve the passage of the flow, which results in lowering the ground water level of this marshy area. Pumping is also considered for the improvement of drainage. As for the irrigation plan, a low intake weir is to be constructed on each of the said two rivers and to draw the water for irrigation through the canals on both banks. Pumping irrigation is also to be introduced if necessary. Power for such irrigation and drainage pumping will be supplied at a relatively low cost from the Drayling power plant (plan is being made to extend the capacity up to 4,000 kW from the existing 500 kW).

III. PURPOSE AND SCOPE OF WORK

11. The Project aims at the preparation of a Comprehensive Project Feasibility Report, including required survey works in the project area. The Project covers the following scope of work:

A. Project Investigation

(1) Review of the results of reconnaissance survey undertaken under the Japanese contribution and confirmation of the feasibility of development.

/ (2)

(2) Survey

(a) Levelling from the existing bench marks, for the purpose of determination of the required ground height in the project area.

(b) Profile levelling along the rivers.

(c) Topographic survey of the proposed intake weir sites and structure sites.

(d) Ground control survey necessary for the mapping of aerial photographs.

(3) Hydrologic investigation

Observation of river stages and measurement of stream discharge during the survey period.

(4) Geological investigation

Geological surface exploration of the project area, and core boring and test pitting of the proposed intake weir sites.

(5) Agricultural investigations

Detailed soil survey of the irrigable area and preparation of land use map giving broad outline of type and fertility of soils together with agricultural survey to arrive at a sound recommendation regarding the type and pattern of crops which will be best suited to the soil and climatic condition.

B. Aerial mapping of irrigable area

Aerial mapping of prospective irrigation area to a scale of 1 to 20,000 with contour intervals of 1 m for plan area and 5 to 10 m for steep area, on the basis of the results of ground control survey.

/ C.

C. Project planning

(1) Collection and analysis of meteorologic and hydrologic data.

(2) Study on irrigation and drainage method, and layout of main canals and distribution system.

D. Project design (not including detailed construction design)

(1) Design of intake weirs, appurtenant structures and pumping stations if any.

(2) Design of irrigation structures and main canals, and preliminary design of distribution system.

(3) Selection of type and rating of pumps and accessories, if necessary.

(4) Preparation of construction schedule.

E. Project evaluation

(1) Estimated cost of construction of the project broken down into annual funds requirement (local as well as foreign currencies).

(2) Estimated amount of loan and interest rate (foreign currency only), period of loan and recommended repayment schedule.

(3) Assessment of benefits to be derived from the project.

(4) Economical justification.

F. Preparation of Comprehensive Project Feasibility Report

Preparation of a comprehensive project feasibility report in a form acceptable to a financial institution as an application for development loan.

/ IV.

IV. PRIVILEGES, IMMUNITIES AND FACILITIES

12. The Japanese members of the survey team to be organized to carry out the present Project (hereinafter referred to as "the Team") shall be entitled to the following privileges and immunities:

(a) Immunity for legal process in respect of all acts performed by them in the execution of the Project;

(b) Immunity from national service obligations;

(c) Immunity from immigration restrictions;

(d) The privilege of bringing into the country reasonable amounts of foreign currency for the purpose of the Project or for personal use of such members, and of withdrawing any such amounts brought into the country, or in accordance with the relevant foreign exchange regulations, such amounts as may be earned therein by such members in the execution of the Project;

(e) The same repatriation facilities in the event of international crises as diplomatic envoys; and

(f) Inviolability for all papers and documents relating to the Project.

13. The Government shall either exempt or bear the cost of any taxes, duties, fees or levies which may be imposed by it on the Team or its Japanese members in respect of:

(a) The salaries, wages or allowances earned by such members in the execution of the Project:

(b) Any equipment, materials and supplies brought into the country in connection with the Project or which after having been brought into the country, may be subsequently withdrawn therefrom; and

/ 14.

14. The privileges and immunities (except for the immunity under 12.(b) above) to which the Team and its personnel are entitled may be waived by the Government of Japan, where in its opinion, such privileges and immunities would impede the course of justice and can be waived without prejudice to the successful completion of the Project or to the interest of the Team.

15. In the preceding paragraphs of this Chapter, "the Government" refers to either one or more of the Government of Cambodia, Laos, Thailand and Viet-Nam to which the respective paragraphs may become applicable in their context during the course of the execution of the Project. Similarly, "the country" refers to either one or more of the territories of Cambodia, Laos, Thailand and Viet-Nam.

16. Subject to a separate arrangement the Committee shall take necessary measures to make available to the Team part of the petroleum and other mineral oils contributed by the Government of Iran.

17. The Government of Viet-Nam and the Committee shall take all necessary steps to make available to the Team in time for the execution of the Project, the data, materials and reports on collateral investigations and studies being carried out at present or proposed to be carried out in the future, including maps and aerial photographs.

18. The Government of Viet-Nam shall provide as a counterpart the following employees and facilities:

(a) Employees

i)	Two interpreters	3 months
ii)	Three car drivers	3 months
iii)	Labourers for surveying	70 man-months
iv)	Labourers for geological drilling and test pitting	15 man-months
v)	Servants	10 man-months

/ (b)

(b) Facilities

i)	One vehicle (Jeep or its equivalent)	3 months
ii)	One field office for engineers (about 50 m2 in space)	3 months
iii)	One field camp house for labourers (for about 10 persons)	3 months
iv)	One bulldozer (D-7 class) including operator and assistant	1.5 months

In case the above mentioned employees and facilities are difficult to purchase, the Government of Viet-Nam shall provide in cash the sum of 500,000 piastres which is equivalent to the above.

V. COMPLETION OF THE PROJECT

19. The Project including the preparation of report is expected to be completed within ten months from the commencement of operations. However, it is understood that the timing of the completion shall be dependent upon the availability of data.

/ IV.

VI. SIGNATURES

Agreed on behalf of the Parties by the undersigned:

Date: 9 March 1963

(Signed) Phlek Chhat
For Government of Cambodia

Date: 9 March 1963

(Signed) Phouangkeoh Phanareth
For Government of Laos

Date: 9 March 1963

(Signed) Boonrod Binson
For Government of Thailand

Date: 23 January 1963

(Signed) Pham-Minh-Duong
For Government of the Republic
of Viet-Nam

Date: 23 January 1963

(Signed) Takeo Arita
For Government of Japan

Date: 9 March 1963

(Signed) C. Hart Schaaf
Executive Agent to the
Committee for Co-ordination
of Investigations of the Lower
Mekong Basin